

USTALOV, V., kapitan

To the sons about the feats of their fathers. Komm. Vooruzh. Sil
46 no.8:64 Ap '65. (MIRA 18:6)

USTALOV, V.A.

137-58-4-6763

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 4. p 66 (USSR)

AUTHORS: Mironov, M.G., Yelisseyev, I.S., Mel'nikov, A.G.,
Kroneberg, D.A., Sereda, B.K., Ustalov, V.A.

TITLE: Forty Years of Copper Industry in the Ural Region (Sorok let
mednoy promyshlennosti Urala)

PERIODICAL: Byul. tsvetn. metallurgii, 1957, Nr 19-20, pp 55-60

ABSTRACT: Bibliographic entry

1. Copper industry--USSR

Card 1/1

SOV/136-59-4-1/24

AUTHOR: Ustalov, V.A., (Deceased)

TITLE: Contributions of the Branch Institutes of Ural to the Development of Non-Ferrous Metallurgy (Vklad otraslevykh institutov Urala v razvitiye tsvetnoy metallurgii)

PERIODICAL: Tsvetnyye metally, 1959, Nr 4, pp 1-4 (USSR)

ABSTRACT: This is a review of the 1958 activities of the Unipromed' and Uralsmekhanobr design and scientific research institutes of the Sverdlovskiy ~~sonarkhoz~~ (Sverdlovsk Economic Council). These activities were concerned with non-ferrous metallurgy in some economic regions of Kazakhstan and Siberia as well as Ural. The Uralsmekhanobr Institute, in collaboration with works personnel, effected improvements in ore beneficiation practice at the Krasnoural'skaya (Krasnoural'sk), Kirovgradskaya (Kirovgrad), Pyshminskaya (Pyshma), Sredne-Ural'sk, Karabashskaya (Karabash), Zolotushinskaya (Zolotukha) and Tuimskaya Beneficiation Works. New equipment such as the type UM-500 high productivity flotation machine was developed. The Unipromed' Institute has carried out research and design work for the Pyshma, Sredne-Ural'sk, Kirovgrad and Mednogorsk copper-smelting works. In

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SOV/136-59-4-1/24

Contributions of the Branch Institutes of Ural to the Development
of Non-Ferrous Metallurgy

collaboration with the Irkutskiy mashinostroitel'nyy
zavod (Irkutsk Machine Construction Works) a new type of
grab is being designed. Both the institutes have done
considerable work in the field of automation and
instrumentation.

Card 2/2

2/

5

SPECTRO-ANALYTICAL DETERMINATION OF THE BASICITY OF OPEN-HEARTH SLAGS. K. A. SHISTERMAN and Z. A. Ustalova. (Zavodskaya Laboratoriya, 1948, vol. 14, Apr., pp. 800-801). (In Russian). A method of determining the basicity of open-hearth slags is given in which the specimen, in the form of a special briquette, is exposed to the action of condensed sparks, the calcium and silicon lines being compared. The results obtained are compared with those of chemical analysis. S.K.

458-11.4 METALLURGICAL LITERATURE CLASSIFICATION

FROM SOURCE
RELAY ONE ONE 111

USTAMIRZAYEVA, A. I.

Dissertation: Grad Stud -- "The Process of Stretching in the Rear End of a Single-Belt Drawing Apparatus." Cand Tech Sci, Moscow Textile Inst, 17 Jun 54. Vechernyaya Moskva, Moscow. 8 Jun 54.

SO: Sum 318, 23 Dec. 1954

USTANOV, Kh. U.

USER/Chemistry - Saccharides

Card 1/1 Pub. 147 - 5/27

Authors : Ustanov, Kh. U., and Kargin, V.A.

Title : Sorption of water on melted glucose and caramel mass

Periodical : Zhur. fiz. khim. 28/2, 224-228, Feb 1954

Abstract : The sorption and desorption of water by amorphous glucose and caramel mass was investigated at 25 and 50° C and compared with the sorption and desorption of cellulose. In contrast to cellulose the glassy sugars at low relative vapor pressures do not adsorb any water. Sorption begins at a specific much higher vapor-pressure after which it increases continuously and reaches values exceeding that of cellulose. The greater water sorption by cellulose is due to the sturdy chains of its macromolecules which prevent diffusion of the water. The mechanism of water sorption by glassy sugars is explained. Three USSR references (1937-1952). Tables; graphs.

Institution : Academy of Sciences Uzbek-SSR, Chemical Institute, Tashkent

Submitted : April 1, 1953

USTANOVSKAYA, L. T.

Forests and Forestry - Ukraine

Forests of Staro-Berdiansk., Priroda, 41, No. 1, 1952.

Monthly List of Russian Accessions, Library of Congress, May 1952. UNCLASSIFIED.

USTAR, Majda

Microbiological and patho-anatomical considerations on pulmonary
resection in tuberculosis. Tuberkuloza no.1:13-19 '62.

1. Bolnica za tuberkulozu i plucne bolesti Topolsica (upravnik: prim.
dr. I. Cestnik).

(PNEUMONECTOMY) (TUBERCULOSIS PULMONARY)

BENEDIK, M.; USTAR, M.

Surgical therapy of chronic empyema in pulmonary tuberculosis.
Tuberkuloza 16 no.3:263-265 My-Ag '64

1. Bolnica za tuberkulozu Topolsica; Institut za tuberkulozu Golnik;
Hirurska klinika Ljubljana.

USTAR, M.; SANEKIK, M.; CESTNIK, I.

Results of resection in the treatment of pulmonary tuberculosis.
(Analysis of 300 patients treated by pulmonary resection during
the period of 1956-1960). Tuberkuloza 16 no.1:17-21 Ja-F '64.

1. Bolnica za plucnu tuberkulozu Topolsica (Predstojnik: prim.
dr. I. Cestnik).

SEKULIC, Bozidar, Prim., dr.; USTAVDIC, Muhamed, dr.; NOVAKOVIC, Momcilo, dr.

Age factor in indications for tonsillectomy. Med. arh.,
Sarajevo 9 no.5:77-84 Sept-Oct 55.

1. (Rad Odeljenja za bolesti uva, nosa i grla Gradske bolnice u
Beogradu. Sef: Prim. dr. Bozidar Sekulic).

(TONSILS, surg.

in child., indic. in relation to age factor. (Ser))

(AGING, pathol.

age factor in tonsillectomy in child. (Ser))

"APPROVED FOR RELEASE: 04/03/2001

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Ustavshchikov, B.P.

82147

SOV/81-53-6-20-03

Translation from: Referativnyy zhurnal. Khimiya, 1959, Nr 6, pp 384-385 (USSR)

5-3831

AUTHORS: Farberov, M.I., Ustavshchikov, B.P., Kut'in, A.M., Vernova, T.P., Yarosh, Ye.V.

TITLE: The Methods of Technical Synthesis and the Application of 2-Methyl-5-Ethylpyridine and 2-Methyl-5-Vinylpyridine

PERIODICAL: Yaroslavsk. prom-st' (Sovnarkhoz Yaroslavsk. ekon. adm. r-ra), 1958, Nr 3, pp 15 - 21

ABSTRACT: In the condensation of 1 mole of paraldehyde and 4 moles of 40-60% (better 50%) aqueous solution of NH_3 in the presence of a catalyst (organic or inorganic salt) taken in the quantity of 1-2% based on the weight of the paraldehyde (20-30 min, 260°C, pressure 80-100 atm) 99% pure 2-methyl-5-ethylpyridine¹ (I) is obtained, yield 75-80%, b. p. 176.7°C, n_D^{20} 1.4974, d_4^{20} 0.9189; as impurities α - and β -picoline, higher pyridines and resins are formed. The reaction proceeds in the following order: $4\text{CH}_3\text{CHO} + \text{NH}_3 \rightarrow \text{N}=\text{C}(\text{CH}_3)\text{CH}=\text{CHC}(\text{C}_2\text{H}_5)=\text{CH} + 4\text{H}_2\text{O}$. I, diluted by water steam in the molar ratio 1:12-1:20 is dehydrogenated in the presence of industrial dehydrogenation catalysts² (K-10 and K-12) consisting of Zn, Cr, Fe and Al oxides activated by K_2O for 2

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SOV/81-59-6-20403

The Methods of Technical Synthesis and the Application of 2-Methyl-5-Ethylpyridine and 2-Methyl-5-Vinylpyridine

hours at 575-600°C and a volumetric rate of 500-600 ml per 1 l of catalyst in 1 hour, 97-99% pure 2-methyl-5-vinylpyridine (II) is obtained, yield 20-25% based on I having passed through, or 70-75% based on I decomposed, b. p. 75°C/15 mm, n_D^{20} 1.5454, d_4^{20} 0.9579. The content of II in the catalyzate is 23-27%, the yield of the catalyzate 89-91%. Pyridine, picolines, 2,5-dimethyl-, 3-ethyl- and 3-vinylpyridine are formed as impurities. II is very inclined to polymerization. S, $C_6H_2(OH)(NO_2)_3$, α -nitroso- β -naphthol and methol (sulfate salt of methylaminophenol) are used as stabilizers of II. In the process of II separation S is used as stabilizer and methol for storing (in concentrations of up to 0.001 weight %). In the case of oxidizing I by $KMnO_4$ or $Cu(NO_3)_2$, 2,5-pyridine-carboxylic acid (yield 60-70%, m. p. 236°C) is obtained which is converted to nicotinic acid by decarboxylizing with a yield of ~100% (m. p. 163°C). The dimethyl ester of 2,5-pyridine-dicarboxylic acid (m. p. 163°C) after reesterification by ethyleneglycol is condensed in the presence of $ZnCl_2$ into a high-polymeric resin. I with CH_2O forms 5-ethyl-2-vinyl- and 5-ethyl-2-(β -oxyethyl)-pyridine with a high yield. I is easily hydrogenated with a yield of ~100% by Na in butyl alcohol,

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SOV/81-59-6-20403

The Methods of Technical Synthesis and the Application of 2-Methyl-5-Ethylpyridine
and 2-Methyl-5-Vinylpyridine

and also catalytically (in the presence of Ni-catalysts) in 2-methyl-5-ethyl-
piperidine, b. p. 160-161°C, n_D^{20} 1.4530, d_4^{20} 0.8559. It is a monomer for
the industry of synthetic rubber, it can be used in the production of plastics
and synthetic fibers.

Ya. Danyushevskiy

Card 3/3

5(1, 3)

SOV/153-58-5-16/28

AUTHORS:

Farberov, M. I., Ustavshchikov, B. F., Kut'in, A. M.,
Vernova, T. P., Yarosh, Ye. V.

TITLE:

Technical Synthesis of 2-Methyl-5-Ethyl Pyridine and
2-Methyl-5-Vinyl-Pyridine, and Their Fields of Application
(Tekhnicheskiye sintezy 2-metil-5-etilpiridina i 2-metil-5-
vinilpiridina i oblasti ikh primeneniya)

PERIODICAL:

Izvestiya vysshikh uchebnykh zavedeniy. Khimiya i khimicheskaya
tekhnologiya, 1958, Nr 5, pp 92-99 (USSR)

ABSTRACT:

The authors took the synthesis of 2-methyl-5-ethyl pyridine
(MEP) from acetaldehyde and ammonia with a further dehydro-
genation to 2-methyl-5-vinyl pyridine (MVP) as a basis for
the working out of technical synthesis of these two substances.
The papers recently published in patents (Refs 11-13) tend to
show an intense elaboration of these reactions. There are,
however, no publications on the first, and especially on the
second stage of this process. The authors first clarified the
most important rules governing the reaction between acetaldehyde
and ammonia for the purpose of an industrial utilization.

1) S y n t h e s i s o f 2 - m e t h y l - 5 - e t h y l
p y r i d i n e. Acetaldehyde is used as paraldehyde. This

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NOV/153-58-5-16/28

Technical Synthesis of 2-Methyl-5-Ethyl Pyridine and 2-Methyl-5-Vinyl Pyridine and Their Fields of Application

offers much higher yields. Stoichiometric ratios (1.33 mol paraldehyde per 1 mol ammonia) could, however, not secure a sufficiently high MEP yield. The optimum ratio amounts to at least 4 mol ammonia per 1 mol paraldehyde. The presence of larger quantities of water has a favorable effect. The opinions on the formation mechanism of MEP in literature contradict each other (Ref 14). Up to 30 different salts, among them $ZnCl_2$, $FeCl_2$, $SbCl_3$, $CoCl_2$, $NiCl_2$, CH_3COONa , NH_4Cl , CH_3COONH_4 , NH_4F , $NH_4F \cdot HF$, KF , KHF_2 and others served as catalysts. A catalyst was selected which corresponds to the technical process. Its concentration usually amounts to 1-2% of the paraldehyde. The reaction takes also place without catalyst, however, with much smaller yields.

2) Dehydrogenation of 2-methyl-5-ethyl pyridine. Synthesis of 2-methyl-5-vinyl pyridine. The best industrial dehydrogenating catalysts served for dehydrogenation: K-10 and K-12, which consist of zinc oxide, chromium oxides, iron and aluminum oxides, activated with potassium oxide. The partial pressure is

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Technical Synthesis of 2-Methyl-5-Ethyl Pyridine and 2-Methyl-5-Vinyl Pyridine,
and Their Fields of Application

SOV/153-58-5-16/28

best decreased by dilution with steam. Figure 2 shows typical dehydrogenation curves of MEP (catalyst K-12 at 5750). Under optimum conditions the MVP yields per passed MEP amounted to 20-25%, and per decomposed MEP to 70-75%. 3) Isolation and stabilization of MVP, i.e. the separation of MEP from MVP is a difficult process as their boiling points are close to each other (176.7 and 1870). Furthermore MVP is easily polymerized. For this reason a high vacuum is required. Sulfur, picric acid, α -nitroso- β -naphthol and sulfurous methyl amino phenol (Figs 3,4) were the best stabilizers of some dozens investigated. 4) Equipment and apparatus for the MVP synthesis. Figure 5 shows a corresponding scheme. 5) The scheme (p 98) shows some more synthesis proceeding from MEP (Refs 15,16). 6) Finally, rubber and latex types on MVP basis are discussed. Some of them show better adhesion to cord from viscose and nylon, high elasticity, frost resistance, and resistance to wear and tear. Some branches of industry announce at present a high demand for those rubber types. There are 5 figures and 18 references, 6 of which are Soviet.

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Technical Synthesis of 2-Methyl-5-Ethyl Pyridine and 2-Methyl-5-Vinyl Pyridine,
and Their Fields of Application

SOV/153-58-5-16/28

ASSOCIATION: Yaroslavskiy tekhnologicheskii institut ^{opytnyy} zavod Ministerst-
va khimicheskoy promyshlennosti (Yaroslavl' Technological
Institute and Test Plant of the Ministry of Chemical Industry)

SUBMITTED: December 28, 1957

Card 4/4

YUSTAVSHCHIKOV, B. F.

PHASE I BOOK EXPLOITATION SOV/9350

Soversheniye po khimii, tekhnologii i primeneniyu proizvodnykh:
pitulna i khimolna. Mga, 1957

Russiya, tekhnologiya i prikladnyye proizvodnyye pyridina i kinolina; materialy sovetskoye (Sovetskoye Tekhnologicheskoye) materialy sovetskoye (Sovetskoye Tekhnologicheskoye) i ukladaniye pyridina i kinolina pyridina i kinolina i ukladaniye pyridina i kinolina. Moscow: Khimicheskoye, 1960. 299 p. Kraye naydennogo. 1,000 copies printed.

Sponsoring Agencies: Akademiyu nauk Latvyskoy SSR. Institut
klimata; Vsesoyuznoye klinicheskoye obschestvo.

Ed.: S. Bakhovai, Tech. Ed.: A. Klyavina, Editorial Board: Yu. A. Danilovskiy, Candidate of Chemistry, E. V. Yarns, Candidate of Chemistry (Resp. Ed.), L. F. Zolotarev, Doctor of Chemistry, and M. M. Kazymov.

PURPOSE: This book is intended for organic chemists and chemical engineers.

COVERAGES: The collection contains 33 articles on methods of synthesizing or producing pyridine, quinoline, and their derivatives from natural sources. No personalizations are mentioned. Figures, tables, and references accompany the articles.

II. SYNTHETIC MEANS OF PREPARING PYRIDINES AND QUINOLINES

Sadyrov, A. S., and O. S. Orzhbenko. [Soviet-Panama] University. university level V. I. Lenin (Central Asia State University named V. I. Lenin). Synthetic Studies Card 6/10.

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the Ministry of the Chemical Industry
of the USSR Academy of Sciences

Academiä Nauk
Sinteza

४१०-२५११

LATVYISKY SSR (Institute of Chemistry, Latvian Academy of Sciences Latvyskaya SSR). The Transition from the pyridine to pyridine Derivatives

1997

Kotchenko, M. M.
Akademicheskii
[Institute of Organic Chemistry, USSR Academy of Sciences, Moscow, USSR] (Institute for High Molecular Synthesis and Polymer-

of the A

Section of Unsaturation Compounds

line Ser. 68

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11

(Proc. Agricultural Institute), Catalogue
Control No. Passes from American Airlines and Airline

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Reaction of α -Halogenoalkyl Acrylates and Synthesis of Quinoidines from Sodium Acyl Acrylates

N-Acetyl-

Michael J. I. [Vesoyutnyy mashino-2381:GOVANI:71
Khimicheskikh reaktsiy IAT-Tion-S:enetic
Study of the

709617

Hydroxyquinoline Method of Synthesis

Tefton

DERIVATIVES OF QUINOLINE
OF ARYL AMIDES

Kozlov,

Pedagogicheskii Institut (Perm') Kazanskii Universitet
Katalytic Syntheses of 2-Phenyl-5,6-Dimethylquinoline Deriv.

WATKINS

Ardashnev, V. I. [Moscow State University]. Catalytic Conversion of Activated Aryl Amines to Quinolines

104

Zakayev, L. P. Products of the condensation of the N-alkyl derivatives with acetanhydride in a neutral

MR. T. J. MURPHY

S/080/61/034/003/011/017
A057/A129

AUTHORS: Farberov, M. I.; Kut'in, A. M., Ustavshchikov, B. F., Vernova,
T. P., Frolov, A. F.

TITLE: Investigation of the conditions for the synthesis of 2-methyl-
-5-vinylpyridine

PERIODICAL: Zhurnal prikladnoy khimii, v. 34, no. 3, 1961, 632 - 640

TEXT: Dehydrogenation of 2-methyl-5-ethylpyridine (MEP) was investigated in order to increase the yield of 2-methyl-5-vinylpyridine (MVP). Conditions were presented ensuring a 25 % yield of MVP in relation to the amount passed of MEP and 70 - 73 % yield in relation to decomposed MEP. Steam effects partial hydrolysis of pyridine bases and is thus not a completely inert diluent in dehydrogenation of MEP. Inhibitors for polymerization were investigated for the storage of MVP and separation from dehydrogenation products. Improvement of this dehydrogenation process is important for the manufacture of polymer materials. MVP is especially significant in the production of special types of synthesized latex and synthetic rubber according to R. Frank et al. (Ref. 1: Ind. Eng. Chem., 40, 879 (1948)), J. E. Pritchard and M. H. Opheim (Ref. 2: Ind. Eng. Chem., 46, 2242,

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S/080/61/034/003/011/017

A057/A129

Investigation of the conditions for

1954, 47, 863, 1955), H. E. Rallsback and C. C. Biard (Ref. 3: Ind. Eng. Chem., 48, 1043, 1956), and V. L. Tsaylingol'd et al. (Ref. 4: Kauchuk i rezina, 9, 1958, 3, 1959, 9, 1959), or ion exchange resins in the manufacture of synthetic fibers. The raw material - MEP - is synthesized by Chichibabin's reaction between paraaldehyde and ammonia in liquid phase according to M. I. Faberov et al. (Ref. 5: Izv. Vuzov, Khim. i khim. tekhn., 5, 92, 1958) with a 70 - 75 % yield. The present experiments were carried out (in assistance of M. Yu. Tikhvinskaya and M. A. Loginova) by a method and with a laboratory assembly described in a prior paper (Ref. 11: ZhOKh, 30, 875, 1960). Vapor pressure and liquid - vapor equilibria in the system MEP - MVP was determined on an apparatus similar to Othmer's (Ref. 12: Ind. Eng. Chem., 45, 614, 1953) especially adapted for vacuum tests. Two catalysts were used: no. 1 based on ZnO and no. 2 on Fe₂O₃, containing 86 - 88 % of the basic component, some chromium oxide and small amounts of other components, which are not specified. Since considerable carbon deposition occurs during the dehydrogenation process, the catalyst had to be regenerated after 2 - 8 hours by passing an air-steam mixture at a maximum temperature of 650° - 700°C. Results of dehydrogenation experiments with steam as diluent in varying conditions are given in Table 1. It can be seen that the yield of MVP related to decomposition of MEP decreases with the contact time. This is apparently effected by

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Investigation of the conditions for

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side reactions and increasing carbon deposition. The latter depends on the type of catalyst and the degree of dilution by steam. Steam cannot be considered as inert diluent, since with increasing dilution by steam the yield of catalyzate and of MVP (based on decomposed MEP) decreases, in spite of the fact that the yield of MVP based on the amount of passed MEP increases (Figure 1). Also with increasing dilution by steam formation of gaseous products (CO_2 , H_2 , NH_3 etc) and the content of pyridines (α - and γ -picoline, 2,5-lutidine, 3-vinylpyridine) in the catalyzate increases. This can be explained by the reaction of pyridine bases with steam, resulting in a partial dealkylation of MEP and formation of pyridines, or total rupture of the pyridine ring with ammonia evolution. A similar reaction was observed by A. A. Baladin et al. (Ref. 8: DAN SSSR, 110, 79, 1956) on α -picoline. These side reactions of hydrolysis occur with different rates on various catalysts, thus influencing the selection of the latter. Results on dehydrogenation of MVP with other diluents are given in Table 3. The observed effect of benzene can be explained by the fact that no side reactions of hydrolysis occur. Although nitrogen does not show these side reactions, no desorption of pyridine bases from the catalyst is effected by nitrogen (contrary to benzene) resulting in thermal decomposition of these substances. Fractionation of the catalyzate at 20 torr demonstrated that the fraction boiling at 63 -

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- 69°C (20 torr) [Abstracter's note: Error in original paper - 200 torr instead of 20.] has an increased refraction index and contains considerable amounts of an unsaturated compound, apparently 3-vinylpyridine. Thus the following reaction and side products were obtained in dehydrogenation of MEP: (I) α -picoline, (II) 3-ethylpyridine, (III), 2,5-lutidine, (IV) 3-vinylpyridine, (V) 2-methyl-5-ethylpyridine, (VI) 2-methyl-5-vinylpyridine. The present authors consider (I), (II) and (III) as main cracking products of MEP (in presence of hydrogen), while (IV) is a cracking product of MVP. Different stabilizers for MVP were investigated (Figure 3) and it was observed that 0.1 % of sulfur is the optimum stabilizer in fractionation of MVP. For the storage of MVP an admixture of 0.001 % methol is most efficient in stabilizing MVP for several weeks, or 0.01 % methol for several months. Liquid-vapor equilibrium in the system MEP - MVP is shown in Figure 5. Corresponding experiments demonstrated that special conditions must be maintained if a 98 - 99 % concentration of MVP should be attained in fractionation. Thus in the system the maximum temperature should be 95°C (for highly concentrated MVP only 85°C), and highly effective inhibitors should be used. There are 6 figures, 4 tables and 12 references: 8 Soviet-bloc and 4 non-Soviet-bloc.

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Investigation of the conditions for

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A057/A129

ASSOCIATIONS: Institut monomerov dlya SK (Institute of Monomers for Synthetic Rubber) and Yaroslavskiy tekhnologicheskii institut (Yaroslavl' Technological Institute)

SUBMITTED: June 6, 1960.

Table 1: Dehydrogenation of MVP on the catalysts no. 1 and no. 2 using steam as diluent. Legend: (1) no. of the catalyst, (2) temperature(°C), (3) nominal contact time, sec., (4) volume velocity of the MEP supply (in ml/ml catalyst per h), (5) molar ratio H₂O/ MEP, (6) yield of the catalyzate (weight %), (7) yield of MVP based on the MEP passed (mole %), (8) yield of MVP based on the MEP decomposed (mole %), (9) carbon deposit on the catalyst (mole %, based on the MEP passed).

Card 5/9

USTAVSHCHIKOV, B.F.; FARBEROV, M.I.; PODGORNOVA, V.A.

Industrial synthesis of methacrylic acid based on isobutylene.
Khim. i khim. tekhn. 1:79-89 '62. (MIRA 17:2)

1. Yaroslavskiy tekhnologicheskii institut i Nauchno-issledovatel'skiy institut monomerov dlya sinteticheskogo kauchuka.

USTAVSHCHIKOV, B.F.; TITOVA, T.S.

Transformation of bivinyl adducts with furfurol by the
Cannizzaro-Tishchenko reaction. Khim. i khim. tekhn. 1:109-
110 '62. (MIRA 17:2)

ACCESSION NR: AT4029922

8/3087/62/001/000/0079/00891

AUTHOR: Ustavshchikov, B. F.; Farberov, M. I.; Podgornova, V. A.

TITLE: Technical synthesis of methacrylic acid based on isobutylene

SOURCE: Yaroslavl'. Tekhnologicheskii institut. Khimiya i khimicheskaya tekhnologiya, vol. 1 (8), 1962, 79-89

TOPIC TAGS: methacrylic acid, isobutylene, synthesis, monomer, nitrogen tetroxide, nitrosation, isobutyric acid

ABSTRACT: Methacrylic acid and its derivatives are one of the most important monomers for the production of synthetic materials. The requirements for methacrylic derivatives, in the Soviet Union alone, will increase ten fold within the next 20 years. Currently there is one method of obtaining methacrylic acid and methyl methacrylate based on the use of acetone and hydrogen cyanide as an initial raw material. The authors conducted a detailed study of the method for obtaining methacrylic acid from isobutylene and nitrogen tetroxide. The reaction was shown graphically along with the various effects of temperature and velocity on the yield. Diagrams of the equipment used were given. The conditions of the isobutylene reaction with nitrogen tetroxide produced α -oxybutyric acid with a 75-80% yield as a

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ACCESSION NR: AT4029922

basic product. A nitrosation reaction occurred rather than a nitration reaction. The fundamental intermediate product of the reaction, α -nitrate isobutyric acid was formed from the isonitroso compound-oxime of α -nitrate isobutyric aldehyde. The catalyst and conditions were selected which permitted methacrylic acid to be obtained from α -oxyisobutyric acid with a yield approximating the quantitative. Orig. art. has: 6 figures.

ASSOCIATION: Yaroslavskiy tekhnologicheskii institut i nauchno-issledovatel'skiy institut monomerov dlya SK (NIIMK) (Yaroslavl technological institute and scientific research institute of monomers for SK (NIIMK)).

SUBMITTED: 00

DATE ACQ: 29Apr64

ENCL: 00

SUB CODE: CH

NO REF SOV: 006

OTHER: 006

Card 2/2

Synthesis of methacrylic acid ...

S/204/62/002/004/015/019
E075/E436

NH₄OH to solutions of CaNO₃ and CaCl₂. It is dried at 110 to 120°C and activated and regenerated at 350 to 400°C in an air-steam mixture. The dehydration is achieved by passing 20 to 30% aqueous solution of α-oxyisobutyric acid over the catalyst at 250 to 300°C. The products contain 10 to 15% methacrylic acid. The yield increases with increasing temperature up to 250°C, which is the optimum temperature for the process. The optimum space velocity for α-oxyisobutyric acid is about 1.3 litres/litre of catalyst/hour. These conditions give 77.7% yield of methacrylic acid (based on the amount of α-oxyisobutyric acid passed). There are 4 figures. ✓

ASSOCIATIONS: Yaroslavskiy tekhnologicheskii institut
(Yaroslavl' Technological Institute)
Nauchno-issledovatel'skiy institut monomerov dlya SK
(Scientific Research Institute of Monomers for
Synthetic Rubber)

Card 2/2

USTAVSHCHIKOV, B. F.; FARBEROV, M. I.; PODGORNOVA, V. A.

Synthesis of methacrylic acid based on isobutylene. Nefta-
khimia 2 no.4:592-599 J1-Ag '62. (MIRA 15:10)

1. Yaroslavskiy tekhnologicheskii institut i Nauchno-issledo-
vatel'skiy institut monomerov dlya sinteticheskogo kauchuka.

(Methacrylic acid) (Propene)

FROLOV, A.F.; LOGINOVA, M.A.; USTAYSHCHIKOV, B.F.

Separation of methacrylic acid - water mixtures. Neftekhimika
2 no.5:766-770 9-0 '62. (MIRA 16:1)

1. Yaroslavskiy tekhnologicheskii Institut.
(Methacrylic acid)

USTAVSHCHIKOV, B.F.; PODFORNOVA, V.A.; DORMIDONTOVA, N.V.; FARBEROV, M.I.

Course of the reaction between simplest α -olefins and
liquid nitrogen tetroxide. Dokl. AN SSSR 157 no.1:143-146
Jl '64 (MIRA 17:8)

1. Yaroslavskiy tekhnologicheskii institut. Predstavleno akademikom M.I. Kabachnikom.

USTAVSHCHIKOV, B.F., kand. khim. nauk, dots., red.; ISTOMIN,
N.V., kand. fiz.-mat. nauk, dots., red.

[Authors' abstracts and theses of papers presented at
the 14th Scientific Conference of the Yaroslavl Tech-
nological Institute held in 1962] Avtoreferaty i tezis
dokladov. I Yaroslavl', M.-vo vysshego i srednego spetsial'-
nogo obrazovaniia RSFSR, 1962. 103 p. (MIRA 17:3)

1. Yaroslavl'. Tekhnologicheskii institut. Nauchnaya kon-
ferentsiya. 14th, Yaroslavl', 1962.

BUSAKOVA, M.S.; USTAVSHCHIKOV, B.F.; TOR-YAN, Ya.I.

Polarographic study of the kinetics of hydrolysis of nitric acid esters. Part 1: Hydrolysis of isobutyric acid α -nitrates. Kin. i kat. 5 no.3:552-555 My-Je '64.

(MIRA 17:11)

1. Yaroslavskiy tekhnologicheskii institut i Nauchno-issledovatel'skiy institut monomerov dlya sinteticheskogo kauchuka.

FROLOV, A.F.; LOGINOVA, M.A.; USTAVSECHIKOV, B.F.

Liquid - liquid equilibrium in the system acetic acid - nitric
acid - water - chloroform. Zhur. fiz. khim. 38 no.7:1837-1839
Jl '64. (MIRA 18:3)

1. Yaroslavskiy tekhnologicheskii institut.

USTAVSHCHIKOV, B.F.; FARBEROV, M.I.; TITOVA, T.S.; DEGTYAREV, Ye.V.

Nicotinic acid. Metod. poluch. khim. reak. i prepar. no.11:
82-83 '64. (MIRA 18:12)

1. Yaroslavskiy tekhnologicheskii institut. Submitted April 1964.

FROLOV, A.P.; YAROVIKOVA, M.M.; USTAVSHCHIKOV, B.F.; NIKITINA, N.S.

Liquid-liquid equilibrium in the system methyl methacrylate -
methyl alcohol - water. Izv.vys.ucheb.zav.; khim.i khim.tekhn.
8 no.4:570-573 '65. (MIRA 18:11)

1. Yaroslavskiy tekhnologicheskii institut, kafedra tekhnologii
osnovnogo organicheskogo sinteza i sinteticheskogo kauchuka.

L 13497-66 ENT(m)/EWP(j) RM

ACC NR: AP6002074

SOURCE CODE: UR/0204/65/005/006/0873/0879 60

AUTHOR: Ustavshchikov, B. F.; Podgornova, V. A.; Dormidontova, N. V.; Faberov, M. I. 59 6

ORG: Yaroslav Institute of Technology (Yaroslavskiy tekhnologicheskii institut) 141 55

TITLE: Synthesis of methacrylic acid based on isobutylene. Reaction mechanism of isobutylene with N_2O_4 1

SOURCE: Neftekhimiya, v. 5, no. 6, 1965, 873-879

TOPIC TAGS: chemical reaction, IR absorption, isobutylene, nitration, nitric oxide, IR spectrum, spectrophotometer, acrylic acid, organic nitroso compound, nitrate

ABSTRACT: The mechanism of reaction of isobutylene with liquid N_2O_4 was studied by examining the IR spectra of the reaction products. The object of this work was to examine the feasibility of synthesizing methacrylic acid by reacting isobutylene with liquid N_2O_4 . The IR absorption spectra were taken with IKS-14 spectrophotometer with a NaCl prism. The polarographic analyses of the reaction products were made with a VNR polarograph made by Orion Company. The reaction was conducted at $0^\circ C$ and at $20^\circ C$ in dichloroethane solvent. The nitrosonitrate of isobutylene

UDC: 547.391.3.05:547.313.4-125:546.174

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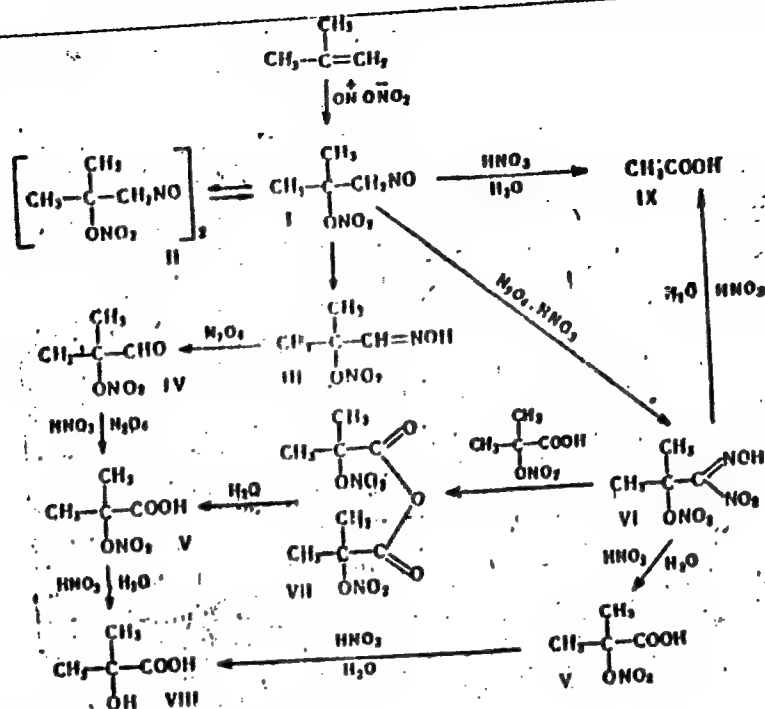
L 13497-66

ACC NR: AP6002074

was detected in the product only when the reaction was conducted at 0°C. It is claimed that this nitrosonitrate represents the primary reaction product. Reaction of isobutylene with liquid N_2O_4 is shown in fig. 1. The authors thank Ya. I. Tur'yan for valuable consultation and polarographic analysis of the reaction products. Orig. art. has: 5 figures, 1 table.

Card 2/3

ACC NR: AP6002074



Reaction of isobutylene with liquid H_2O_4 .
SUB CODE: 07 / SUBM DATE: 13Mar65 / ORIG REF: 008 / OTH REF: 006
Card 3/3 *AR*

SUB CODE: 07
Card 3/3 *AK*

FROLOV, A.F.; LOGINOVA, M.A.; USTAVSHCHIKOV, B.F.

Separation of mixtures of acetic and nitric acids. Zhur.prikl.khim.
38 no.6:1386-1389 Je '65. (MIRA 18:10)

1. Yaroslavskiy tekhnologicheskii institut.

FARBEROV, M.I.; USTAVSHCHIKOV, B.F.; TITOVA, T.S.

Isocinchomeric acid. Metod. poluch. khim. reak. i prepar.
no.11:58-59 '64. (MIRA 18:12)

1. Yaroslavskiy tekhnologicheskii institut. Submitted April
1964.

FARBEROV, M.I.; USTAVSHCHIKOV, B.F.; KUT'IN, A.M.; BARANOVA, T.I.

Isocinchomeric acid. Metod. poluch. khim. reak. i prepar.
no.11:60-62 '64. (MIRA 18:12)

1. Yaroslavskiy tekhnologicheskij institut i Nauchno-issledovatel'-
skiy institut monomerov dlya sinteticheskogo kauchuka.

FARBEROV, M.I.; USTAVSHCHIKOV, B.F.; KUT'IN, A.M.; BUKHAREVA, V.A.

5-Ethyl-2-(β -hydroxyethyl)-pyridine. Metod. poluch. khim. reak.
1 prepar. no. 1:108-109. '64. (MIRA 18:12)

1. Yaroslavskiy tekhnologicheskij institut i Nauchno-issledovatel'skiy institut monomerov dlya sinteticheskogo kauchuka.

RUSAKOVA, M.S.; TUR'YAN, Ya.I.; USTAVSHCHIKOV, B.F.

Polarography of nitric acid esters. Mechanism of electroreduction.
Elektrokhimiia 1 no.7:854-857 J1 '65. (MIRA 18:10)

1. Yaroslavskiy tekhnologicheskii institut i Yaroslavskiy
nauchno-issledovatel'skiy institut monomerov.

USTAVSHCHIKOV, B.F.; PODGORNOVA, V.A.; DORMIDONTOVA, N.V.; FARBEROV, M.I.

Synthesis of methacrylic acid based on isobutylene. Mechanism
of the reaction of isobutylene with N_2O_4 . Neftekhimiia 5 no.6:
873-879 N-D '65. (MIRA 19:2)

1. Yaroslavskiy tekhnologicheskii institut. Submitted March 13,
1965.

AUTHORS: Kryukov, S. I., Kut'in, A. M., Levskaya, G. S., 153-58-1-13/29
Tepenitsyna, Ye. P., Ustavshchikova, Z. F., Farberov, M. I.

TITLE: An Improved Method of the Synthesis of Triethyl-Aluminum
(Uluchshennyi sposob sinteza trietilal'yuminiya)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy,
Khimiya i khimicheskaya tekhnologiya, 1958, Nr 1,
pp. 86-93 (USSR)

ABSTRACT: The authors give a survey on the publications of trialkyl-aluminum as specific catalyst, both alone, as well as with cocatalysts for olefinic polymerization (references 1 to 3), and they compare with each other the known methods of production of aluminum-organic compounds (references 4 to 6). The authors selected the method by Grosse and Meviti (Mavity, ref. 5) as the most convenient one. A) - Production of ethylaluminum sesquichloride (mixture of ethylaluminum-dichloride and diethyl-aluminum-chloride). The first stage of the process according to reference 5 proved to be rather incomplete. It is difficult to be controlled, has a long period of induction and often leads to the complete destruction of the products, sometimes with explosion. The

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An Improved Method of the Synthesis of Triethyl-Aluminum

153-58-1-13/29

authors tried various initiators at atmospheric pressure (crystalline iodine, ethylaluminum-sesquichloride, ethylbromide and a mixture of these substances). Table 1 shows the influence of individual initiators on the period of reaction. Ethylbromide acted most efficiently. Table 2 shows the influence of the initial temperature with the supply of ethylchloride on the reaction-period. Optimum conditions for the carrying out of the process were selected from the obtained test results. Further tests were carried out on an enlarged plant (figure 1). The laboratory results were confirmed: It was possible to reduce the reaction-period to from 2 to 3 hours. B)- Reaction of symmetrization of ethylaluminum-sesquichloride. In order to obtain triethylaluminum, the above reaction must be carried out with the participation of metallic sodium. According to reference 5, various insufficiencies exercised a disturbing effect in this connection. The authors found the conditions for removing them: 1)- Sodium ought to be used in fine dispersion, the surplus of Na must not exceed 5 to 10% of the theoretically required quantity. 2) - Sesquichloride must be introduced in portions as a 20 to 30% solution in hydrocarbons. 3) - The temperature of reaction must not

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An Improved Method of the Synthesis of Triethyl-Aluminum 153-58-1-13/29

exceed 130° and an intense agitation should be guaranteed. The gasoline-fraction "galosha" (boiling above 100°) proved most effective among several tested solvents. The yield of triethylaluminum amounted to 70 to 76% of the charged sesquichloride under the selected optimal conditions. A certain quantity of partly oxidized triethylaluminum was proved in the produced triethylaluminum. The inactive part of the catalyst formed a mixture of all 3 possible ethoxy-compounds. An experimental part follows. C) - Production of aluminum sesquichloride. According to the method described here, a 99% yield of that theoretically possible was obtained. The two (paragraph A) components were present in the mixture in approximately equimolar quantities. D) - The reaction of symmetrization was carried out in a device shown in figure 3. A filter required for this purpose is shown in figure 4. There are 4 figures, 2 tables, and 12 references, 3 of which are Soviet.

ASSOCIATION: Yaroslavskiy tekhnologicheskii institut i opytный zavod
Card 3/4 Ministerstva khimicheskoy promyshlennosti. Kafedra

An Improved Method of the Synthesis of Triethyl-Aluminum 153-58-1-13/29

tekhnologii osnovnogo organicheskogo sinteza i SK
(Yaroslavl' ~~Technological Institute and~~ Technological Institute and
the Experimental Plant of the Ministry for Chemical Industry,
Chair for the Technology of General Organic Synthesis
and SK)

SUBMITTED: September 23, 1957

Card 4/4

S/081/50/000/017/013/015
A006/A001

Translation from: Referativnyy zhurnal, Khimiya, 1960, No. 17, p. 372, # 70452

AUTHORS: Kryukov, S.I., Kut'yin, A.M., Levskaya, G.S., Tepenitsyna, Ye.P.,
Ustavshchikova, Z.F., Farberov, M.I.

TITLE: Technical Mode of Triethylaluminum ¹Synthesis

PERIODICALS: Uch. zap. Yaroslavl'sk. tekhnol. in-ta, 1959, Vol. 3, pp. 5-17

TEXT: The authors developed a technical mode of preparing ethylaluminum-
sesquibromide (I) with a yield of about 100% on the basis of a method described
(Grosse, A.U., Maity, J.M., Organ. Chem., 1940, No. 5, p. 196) which consists
in the interaction of C_2H_5Cl (II) and Al in the presence of 5-10% C_2H_5Br (III) ✓
with relation to Al. I_2 , (I) and their mixtures were tested as initiators yield-
ing unsatisfactory results. It is assumed that the process is initiated by inter-
mediately forming ethylaluminumsesquibromide, in the case that III is used. I is
transformed into $(C_2H_5)_3Al$ (IV) by processing with dispersed Na metal in organic
solvents (benzine, rubber, refined kerosene, xylene, isooctane). Na is taken in
amount of 5-15%, I is introduced into the reaction by portions in the form of

Cont 1/2

Technical Note of Triethylaluminum Synthesis

S/081/60/000/017/013/016
A006/A001

20-30% solution in hydrocarbon, the yield of IV is 70-76% in relation to I, and 70% in relation to II or Al. All the experiments are carried out in dry N₂ atmosphere, free of O₂. Amounts of 40 g Al and 24 g III are heated, while stirring, to 50°C and 160 g (110%) II is added by portions of 10 ml; the reaction lasts 8 hours. I is obtained in the form of a colorless or slightly colored liquid, the yield is 99%, boiling temperature 117-122°C/50 mm. In 100 g of the solvent 29 g Na is heated at 100°C, into the hot dispersion 91.4 g I is added during 20 min in the form of a 30% solution in benzene-rubber (boiling temperature 100-115°C), mixed for 30 minutes at 105-110°C and filtrated; the precipitate is washed with 250 ml of solvent; IV is obtained in the form of a colorless liquid, self-sublimating in air, the yield is 32.5 g, the boiling temperature 100-107°C/10 mm, d 0.872. The authors present two tables and schematic diagrams of metallic apparatus and laboratory equipment including descriptions.

S. Davydova

Translator's note: This is the full translation of the original Russian abstract.

Card 2/2

BONDARENKO, A.V.; KUT'IL', A. I., USTAVSHCHIKOVA, Z.F.; FARBEROV, M.I.

Synthesis of tert-butylbenzoic acid. Izv.vys.ucheb.zav.;
Khim.i Khim.tekh. 4 no.3:452-455 '61. (MIRA 14:10)

1. Yaroslavskiy tekhnologicheskii institut i nauchno-issledovatel'skiy institut sinteza monomerov dlya sinteticheskogo kauchuka, kafedra tekhnologii osnovnogo organicheskogo sinteza i sinteticheskogo kauchuka.

(Benzoic acid)

USTAVSHCHIKOVA, G.V.,
G. G. URIZOV, Tsvetnue Metal. 10, No. 6, 109-30,
(1935)

PROCESSING AND PREPARED INDEX

17

Alf. A. A. Chidzik and G. V. Ustavshchikova. Russ.
55,776, Sept. 30, 1959. Al(OH)₃ is heated with a vol. of
NH₄F, and the AlF₃ is crystd. out.

ASB-51A METALLURGICAL LITERATURE CLASSIFICATION

GROUP EXTENSION

GROUPS 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999 1000

1ST AND 2ND SERIES		PROCESSING AND PROPERTY NOTES		3RD AND 4TH SERIES	
C.A.				2	
<p>The quaternary system $\text{CuCl-NH}_4\text{Cl-HCl-H}_2\text{O}$. I. S. Morozov and O. V. Jovanovitchova. <i>Bull. Acad. Sci. U.S.S.R., Classe sci. chim.</i> 1944, 451-5. In the system $\text{NH}_4\text{Cl-HCl-H}_2\text{O}$ at 4-100° the soly. of NH_4Cl decreases as HCl is added. As the temp. increases, the soly. of HCl decreases and that of NH_4Cl rises. In a soln. satd. with HCl the soly. of NH_4Cl at 0° is 2%; at 25°, 4.84%; at 50°, 6.39%; at 70°, 11.02%; and at 100°, 21.34%. In the system $\text{CuCl-HCl-H}_2\text{O}$ at the same temps., the max. solubilities of CuCl and HCl are 19.02, 34.7%; 21.9, 50; 26.6, 57.5; 29.13, 53.55; and 30.11, 19.27%. In the system $\text{CuCl-NH}_4\text{Cl-H}_2\text{O}$, the curves show the presence of $2\text{CuCl}\cdot\text{NH}_4\text{Cl}$ at 25° and $\text{CuCl}\cdot\text{NH}_4\text{Cl}$ at 50°. By 80° compl. formation has occurred. Isotherms are given for the system $\text{CuCl-NH}_4\text{Cl-HCl-H}_2\text{O}$ at 50, 80, and 100°. $\text{CuCl}\cdot\text{NH}_4\text{Cl}$ is present only at 50°. With rise in temp., the HCl acid increases and that of NH_4Cl decreases. At 100° the salting-out effect of HCl on NH_4Cl is very low.</p> <p>H. M. Leicester</p>					
A.S.S.L.4 METALLURGICAL LITERATURE CLASSIFICATION					
SOURCE SYMBOL		SOURCE TITLE		SOURCE NUMBER	
100000 000 000		100000 000 000		100000 000 000	

107 APR 1962 05181
149 AND 6TH CARDS

107 APR 1962 05181
PROCESSOR AND PROPERTY INDEX
2

The quaternary system $\text{CuCl}_2\text{-NH}_4\text{Cl-HCl-H}_2\text{O}$. I. S. Morozov and G. V. Litsvinskikh. *Bull. Acad. Sci. U.R.S.S., Class. Sci. Chem.* 1949, 74-75; cf. C.A. 30, 3100. From graphically summarized data on the ternary systems $\text{CuCl}_2\text{-NH}_4\text{Cl-H}_2\text{O}$, $\text{CuCl}_2\text{-HCl-H}_2\text{O}$, and $\text{NH}_4\text{Cl-HCl-H}_2\text{O}$, at 25° and 80°, phase diagrams are constructed for the quaternary system $\text{CuCl}_2\text{-NH}_4\text{Cl-HCl-H}_2\text{O}$ at the same temps. This system is characterized by a large solid soln. field (involving $\text{Cu}_2\text{NH}_4\text{Cl}_2\cdot 2\text{H}_2\text{O}$) at 25° which does not vanish at 80°. The composition of the liquid phases at various critical points were as follows (all data at atm. pressure):

Solns. solid. with respect to		Temp.	% CuCl_2	Comps. of satd. soln.	
				% NH_4Cl	% HCl
CuCl_2 Solid soln.	25°	43	2	...	...
	80°	50.5	8.2	...	...
NH_4Cl Solid soln.	25°	1.82	25.9	...	...
	80°	7.06	37.64	...	...
$\text{NH}_4\text{Cl-HCl}$ Solid soln.	25°	0.22	6.24	39.3	...
	80°	2.45	12.83	23.25	...
$\text{CuCl}_2\text{-HCl}$ Solid soln.	25°	16.81	0.74	28.9	...
	80°	16.19	8.12	10.37	...

J. W. Perry

107 APR 1962 05181
149 AND 6TH CARDS

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PROCESSOR AND PROPERTY INDEX
2

The quaternary system $\text{CuCl}_2\text{-NH}_4\text{Cl-HCl-H}_2\text{O}$. I. S. Morozov and G. V. Litsvinskikh. *Bull. Acad. Sci. U.R.S.S., Class. Sci. Chem.* 1949, 74-75; cf. C.A. 30, 3100. From graphically summarized data on the ternary systems $\text{CuCl}_2\text{-NH}_4\text{Cl-H}_2\text{O}$, $\text{CuCl}_2\text{-HCl-H}_2\text{O}$, and $\text{NH}_4\text{Cl-HCl-H}_2\text{O}$, at 25° and 80°, phase diagrams are constructed for the quaternary system $\text{CuCl}_2\text{-NH}_4\text{Cl-HCl-H}_2\text{O}$ at the same temps. This system is characterized by a large solid soln. field (involving $\text{Cu}_2\text{NH}_4\text{Cl}_2\cdot 2\text{H}_2\text{O}$) at 25° which does not vanish at 80°. The composition of the liquid phases at various critical points were as follows (all data at atm. pressure):

Solns. solid. with respect to		Temp.	% CuCl_2	Comps. of satd. soln.	
				% NH_4Cl	% HCl
CuCl_2 Solid soln.	25°	43	2	...	...
	80°	50.5	8.2	...	...
NH_4Cl Solid soln.	25°	1.82	25.9	...	...
	80°	7.06	37.64	...	...
$\text{NH}_4\text{Cl-HCl}$ Solid soln.	25°	0.22	6.24	39.3	...
	80°	2.45	12.83	23.25	...
$\text{CuCl}_2\text{-HCl}$ Solid soln.	25°	16.81	0.74	28.9	...
	80°	16.19	8.12	10.37	...

J. W. Perry

107 APR 1962 05181
149 AND 6TH CARDS

107 APR 1962 05181
PROCESSOR AND PROPERTY INDEX
2

FROLOV, A.F.; LOGINOVA, M.A.; SHVETSOV, O.K.; USTAVTSCHIKOV, B.F.

Liquid-vapor equilibrium in the system methyl alcohol -
methyl methacrylate. Zhur. fiz. khim. 38 no.5:1303-1304
My '64. (MIRA 18:12)

1. Yaroslavskiy tekhnologicheskii institut. Submitted
June 7, 1963.

SHUBENKO, V.A.; USTELEMOV, V.N.

Devices for measuring the pressure exerted by the metal on the
rollers in rolling operations. Trudy Ural. politekh. inst.
no.106:137-144 '60. (MIRA 15:5)
(Rolling mills - Electronic equipment)
(Electronic measurements)

SALARKIN, G.I.; TELENTSEVA, E.D.

"Macrobenthos in the floodplain bodies of water of the lower Ob' and lower Irtysh Rivers and some characteristics of its development. (MIRA 18:10)
Zool. zhur. 44 no.6:818-825 '65.

1. Gosudarstvennyy nauchno-issledovatel'skiy institut ozerogo i rechnogo rybnogo khozyaystva, Leningrad.

UTEKHIN B. P. and BAKEYEVA E. N.

Res. Inst. for Pig-husbandry, Poltava. * Method of investigation of intestinal digestion
in pigs FIZIOL. ZHURN. SSSR 1954, 40/2 (235-236) Illus. 2 (Russian text)

SO: ~~Excerpta Medica~~ Section II Vol 7 N. 12

KARELIN, V. Ye.; PALACHNIK, I. B.; USTYKHOV, B. P.

"An investigation of heat and momentum transfer processes in a compressible turbulent jet in a uniform flow."

report submitted for 2nd All-Union Conf on Heat & Mass Transfer, Minsk, 4-12 May 64.

Power Inst, AS KazSSR.

USTENKO, A., inzhener-kapitan

A strong wind and the mooring of a helicopter. Vest. Vozd.
Fl. no.12:61-63 D '61. (MIRA 15:3)
(Helicopters—Maintenance and repair)

ZAGORDAN, A., inzh.-podpolkovnik; USTENKO, A., inzh.-kapitan

To the pilot about the MI-4 helicopter. Av.i kosm. 46 no.7:
87-88 J1 '63. (MIRA 16:8)

(Helicopters)

USTENKO, A. A., Cand Tech Sci -- (diss) "Research into the mechanism of formation of fibers in the production of mineral and glass wool by draft method." Moscow, 1960. 17 pp; (Ministry of Higher and Secondary Specialist Education RSFSR, Moscow Order of Labor Red Banner Construction Engineering Inst im V. V. Kuybyshev); 200 copies; price not given; (KL, 22-60, 139)

USTENKO, A.A., kand.tekhn.nauk

Study of the fiber-forming mechanism in the production of mineral
and glass wool. Stroi.mat. 9 no.9:32-35 S '63. (MIRA 16:10)

BARBARINA, T.M.; BUBYR', N.F.; BUST, L.E.; VEL'SOVSKIY, V.N.;
GORLOV, Yu.P.; GRIBANOVSKIY, V.G.; DROZDOV, I.Ya.;
YEREMIN, I.A.; ZEZIN, V.G.; KEVESH, P.D.; KOCHAROV, E.F.;
KOSYREVA, Z.S.; LEVIN, S.N.; MAKHNOVICH, A.T.; MERZLYAK,
A.N.; RODOV, E.S.; ROZHNOV, A.I.; SEREBRYANSKAYA, B.I.;
SUKHAREV, M.F.; USTENKO, A.A.; KHOMENKO, Z.S.; SHMIDT,
L.M.; ETIN, A.O.; YAKHONTOVA, N.Ye.; KITAYTSEV, Vladimir
Andreyevich, prof., doktor tekhn. nauk, red.; SKRAMTAYEV,
B.G., glav. red.; TROKHIMOVSKAYA, I.P., zam. glav. red.;
KRAVCHENKO, I.V., red.; KITAYGORODSKIY, I.I., red.;
KRZHEMINSKIY, S.A., red.; ROKHVARGER, Ye.L., red.; BALAT'YEV, P.K.
red.

[Manual on the manufacture of heat insulating and acous-
tical materials] Spravochnik po proizvodstvu teploizo-
liatsionnykh i akusticheskikh materialov. Moskva, Stroi-
izdat, 1964. 524 p. (MIRA 18:1)

USTENKO, A.S.

~~Lighten the load of trackwalkers. Put' i out. khcz. no. 8:43~~
4g '58. (MIRA 11:8)

1. Zamestitel' nachal'nika distantsii puti, stantsiya Kurort
Borovoye Kazakhskoy dorogi.
(Railroads--Track)

USTENKO, I.
ZAYTSEV, A.; SIKUL'SKIY, I.; SKOBELKIN, I.; USTENKO, F.; YEGOROV, V.; ORLOV,
A.; SEMUNOV, S.

Free the state Bank from nonbanking functions. Den. 1 kred. 16 no.1:
51-55 Ja '58. (MIRA 11:3)
(Banks and banking)

[illegible]

1ST AND 2ND EDITIONS										1ST AND 2ND EDITIONS									
PROCESSES AND PROPERTIES INDEX																			
<div style="position: absolute; top: 10px; left: 10px; font-size: 2em; font-weight: bold;">BC</div> <div style="position: absolute; top: 10px; right: 10px; font-size: 2em; font-weight: bold;">R-4</div> <div style="position: absolute; top: 250px; left: 300px;"> <p>Effect of mineral salts on photosynthesis in relation to amount of ascorbic acid in the leaf. C. M. Utomkin. (<i>Comm. rend. Acad. Sci. U.S.S.R.</i>, 1952, No. 10, 225-228).—When 0.1M-NH₄NO₃ and 0.1M-PO₄ were injected into detached leaves of sugar beet (Beta vulgaris), the rate of photosynthesis, which is only slightly greater than that of the control leaves, was kept in the dark. Since these salts are known to be essential for synthesis of ascorbic acid, the results suggest that the rate of photosynthesis and the rate of ascorbic acid synthesis are inter-related. The rate of photosynthesis was also increased in leaves of sugar beet when injected with 0.1M-NH₄NO₃ and 0.1M-KCl, when injected into the leaf decrease photosynthetic activity.</p> <p style="text-align: right;">J. N. A.</p> </div>																			
ADD-ELA METALLURGICAL LITERATURE CLASSIFICATION																			
BOOK SYMBOLISM										BOOK SYMBOLISM									
SYMBOLISM										SYMBOLISM									
SYMBOLISM										SYMBOLISM									

PAVLOV, A.V.; USTENKO, O.P.

Heat balance and radiation regime in corn fields. Izv. AN
SSSR. Ser. geog. no. 6:47-55 N-D '65. (MIRA 18:11)

PAVLOV, A.V.; USTENKO, G.P.

Some features of the formation of the potato harvest under
irrigation in the Southeast. *Fiziol.rast.* 7 no.1:100-103
'60. (MIRA 13:5)

1. Stalingrad Agricultural Institute.
(Volga-Don Canal region--Potato)

KARPENKO L.P.; PLYASKIN, Yu.A.; USTENKO, G.P.

Commercial use of sieve trays with baffle elements. Neftepr. i
neftekhim. no.7:40-43 '64. (MIRA 17:11)

1. Omskiy neftepererabatyvayushchiy zavod.

SHUGAYLO, V.T.; USTENKO, N.P.

Sensitivity of dysentery bacteria to antibiotics; from data
of the Ternopol regional hospital from 1959 to 1961.
Antibiotiki 8 no.1:68-69 Ja'63. (MIRA 16:6)

1. Ternopol'skiy meditsinskiy institut i Oblastnaya sanitarno-epidemiologicheskaya stantsiya.
(SHIGELLA) (ANTIBIOTICS)
(BACTERIA—EFFECT OF DRUGS ON)

USTENKO, P.M.

Aspects of growing sugar beets. Sakh.prom. 31 no.3:48-51 Mr '57.
(MIRA 10:4)

1.Sumsko-Stepanovskiy sakharney zavod.
(Sugar beets)

LAZAREV, A.I.; LAZAREVA, V.I.; ZAK, S.Sh.; USTENKO, T.M.

Determination of rhenium with α -furyldioxime after the separation of molybdenum by the extraction with a chloroform solution of nitron. Zav.lab. 28 no.11:1316-1319 '62. (MIRA 15:11)

1. TSelinogradskiy sel'skokhozyaystvennyy institut i Dzhezkazganskiy gornometallurgicheskiy kombinat.
(Rhenium--Analysis) (Oximes)

USTENKO, V. L.

317 Bureniye Skunzhin, S Promykovoy Zaboya Tekhnicheskoy Vedy. Knybyshev, Kn. Izd.,
1954. 14s. 20SM. (Opyt Peredovikov P. proizvodstva). 2.000 Ekz. 65 K. -(54-54760) P
622.372:622.745

30: Knizhnaya, Letopis, Vol. 1, 1955

15-57-3-3843

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 3,
p 193 (USSR)

AUTHORS: Fingerit, M. A., Ustenko, V. L.

TITLE: The Principles of Rational Drilling Programs (Osnovy
ratsional'nykh rezhimov bureniya)

PERIODICAL: Normativno-issled. st. pri ob'yedinenii Kuybyshevneft'
Kuybyshev, 1956, 59 pp

ABSTRACT: Bibliographic entry

Card 1/1

GAZARYAN, Artem Grigor'yevich; USTENKO, V.L., red.; PETROPOL'SKAYA,
N.Ye., red.; DURASOVA, V.F., ~~red.~~ red.

[Our experience in the use of hydrocyclone installations]
Nash opyt primeneniia gidrotsiklonnykh ustanovok. Kuibyshev,
Kuibyshevskoe knizhnoe izd-vo, 1962. 22 p.
(MIRA 17:1)

DVORETSKIY, Arkadiy Sergeyevich; USTENKO, V.L., red.; PETROPOL'SKAYA,
N.Ye., red.; DURASOVA, V.M., tekhn. red.

[Rotary turbodrilling] Turbinno-rotarnoe burenie; iz opyta
raboty tresta "Pervomaiburneft." Kuibyshev, Kuibyshevskoe
knizhnoe izd-vo, 1962. 23 p. (MIRA 16:6)
(Oil well drilling) (Turbodrills)

SHTOF, M.D.; KHOMENKO, V.I.; USARENKO, V.I.

Chromatographic analysis of 1,2-dibrom-3,4-dichlorobenz. oil. 12/2.
i tekhn. topl. i masel 9 no. 7:64-67 '64. (MIRA 17:12)

1. Kuybyshevskiy nauchno-issledovatel'skiy institut neftyanoy
promyshlennosti.

USTENKO, V. S., YARNYKH, V. S.

Veterinary Medicine.

Treatment and prevention of pneumonia. Veterinariia 29 no. 5, 1952.

9. Monthly List of Russian Accessions, Library of Congress, August 1952/2 Unclassified.

US'ENKO, V.S.

"Kostyl'" an improved liquid sprayer. Veterinariia 30 no.2:49-51
F '53. (MLBA 6:2)

1. Vsesoyuznaya nauchno-issledovatel'skaya laboratoriya veteri-
narnoy sanitarii i dezinfektsii Ministerstva sel'skogo khozyay-
stva SSSR.

USTENKO, V.S., nauchny sotrudnik.

Disinfection of livestock buildings in Anjesky's disease. Veterinariia
32 no.7:82-83 J1 '55. (MIRA 8:9)
(DISINFECTION AND DISINFECTANTS) (PSEUDORABIES)

USTENKO, V.S., Cand Vet Sci -- (diss) "Disinfection of rooms and
tanning and fur stock Moscow, 1957, 16 pp
(Moscow Veterinary Academy) 14C copies (KL, 36-57, 106)

USTENKO, V.S., nauchnyy sotrudnik; SHAKHALIN, A.A., kand. tekhn. nauk

Disinfection of hides and skins which may be carrying Aujezky's
disease. Trudy VNIIVSE 11:363-375 '57, (MIRA 11:12)
(Pseudorabies) (Hides and skins--Disinfection)

POLYAKOV, A.A.; USTENKO, V.S.

Sprayers and their use. Trudy VNIIVSE 11:403-405 '57.
(MIRA 11:12)

(Spraying and dusting equipment)

USTENKO, V.S., nauchnyy sotrudnik.

Viability of Arjesky's disease virus. Veterinarila 34 no.3:74-75
Mr '57. (MLRA 10:4)

(Pseudorabies virus)

USTENKO, V.S., nauchnyy sotrudnik

Viability of the virus of Aujeszky's disease outside of the
animal organism. Trudy VNIIVSE 13:49-59 '58. (MIRA 11:12)
(Pseudorabies)

USTENKO, Y. I.

✓ Separation of aluminum and zirconium by the method of
— such as —

2

the method of

USTENKO, Yu.I.; SUBBOTNICH, V.I.

Amperometric determination of iron, copper, and zinc in aluminum alloys by titration with 8-mercaptoquinoline. Zav. lab. 30 no.6: 662-663 '64 (MIRA 17:8)

1. Dnepropetrovskiy Khimiko-Tekhnologicheskii Institut imeni F.E. Dzerzhinskogo.

USTIASHVILI, A.D., prof.; TUSHISHVILI, V.M.; BAKRADZE, G.A.

Obstetric vacuum extractor. Akush. i gin. no.1:70-72 '65.
(MIRA 18:10)

1. Kafedra akusheratva i ginekologii (sav.- prof. A.D.
Ustiashevili) pediatricheskogo i sanitarno-gigiyenicheskogo
fakul'teta Tbilisskogo meditsinskogo instituta.

USTIASHVILI, A. D.

22767 Ustiashevili, A. D. Problema Allergii v Sineptologii Tsvdy
(Tbilis. Gos. Med. II-T), T. 7, 1948 S. 184-88-Na Cruz. Yaz.
Rezyume Na Rus. Yaz.

SO: Letopis', No. 70, 1949

USTIASHVILI, Aleksey Dmitriyevich

[Blood transfusion and the Rhesus factor in obstetrics
and gynecology] [Perelivanie krovi i rezus-faktor v
akusherstve-ginekologii. Tbilisi, Sabchota Sakartvelo]
1965. 135 p. [In Georgian] (MIRA 18:8)